SEQUENCE OF OPERATIONS

1.0 START/STOP

1.1 THE FAN WILL BE STARTED/STOPPED WHEN SIGNALED BY DDC CONTROLLER.

1.2 THE H–O–A SWITCH SHALL BE KEPT IN THE "AUTO" POSITION. "HAND" AND "OFF" SHALL ONLY BE USED FOR MAINTENANCE. WHEN THE UNIT IS "OFF" D–3 SHALL BE FULLY CLOSED. WHEN THE UNIT IN ON D–2 SHALL BE OPEN.

1.3 FREEZE STAT AND SMOKE DETECTORS SHALL BE WIRED TO REMAIN IN CIRCUIT W/STARTER IN "HAND" POSITION.

2.0 COOLING/HEATING

2.1 THE SPACE TEMPERATURE SENSORS WILL MODULATE THE MULTIZONE DAMPERS TO MAINTAIN SPACE TEMPERATURES SETPOINTS OF 74°F (ADJUSTABLE) FOR COOLING AND 70°F (ADJUSTABLE) FOR HEATING. WHEN ALL ZONES CALL FOR HEATING THE HOT WATER CONTROL VALVE WILL MODULATE TO MAINTAIN THE HOT DECK SUPPLY TEMPERATURE OF 105°F (ADJUSTABLE) AND THE CHILLED WATER VALVE SHALL REMAIN CLOSED CREATING A NEUTRAL DECK. WHEN ALL ZONES CALL FOR COOLING THE CHILLED WATER CONTROL VALVE WILL MODULATE TO MAINTAIN A COLD DECK TEMPERATURE OF 55°F (ADJUSTABLE) AND THE HOT WATER VALVE WILL CLOSE CREATING A NEUTRAL DECK. WHEN THERE ARE ZONES CALLING FOR HEATING AND COOLING SIMULTANEOUSLY THE CHILLED WATER VALVE SHALL MODULATE TO MAINTAIN A COLD DECK TEMPERATURE OF 55°F (ADJUSTABLE) AND THE HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LOWEST HOT DECK TEMPERATURE TO MAINTAIN HEATING SETPOINT IN THE CRITICAL ZONE.

3.0 FREEZE PROTECTION

3.1 IF THE AIR TEMPERATURE AS SENSED BY T–1 FALLS BELOW 45°F, AN ALARM SIGNAL SHALL BE INDICATED AT THE DDC CONTROL PANEL. IF THE TEMPERATURE AT T–1 FALLS BELOW 40°F, THE UNIT SUPPLY FAN SHALL SHUT "OFF" AND A CRITICAL ALARM SHALL BE INDICATED AT THE DDC PANEL. CONTROL WIRING FROM THIS FREEZE STAT SHALL BE HARD WIRED IN CONDUIT TO THE SUPPLY AIR FAN STARTER.

4.0 AUTOMATIC SHUTDOWN/RESTART

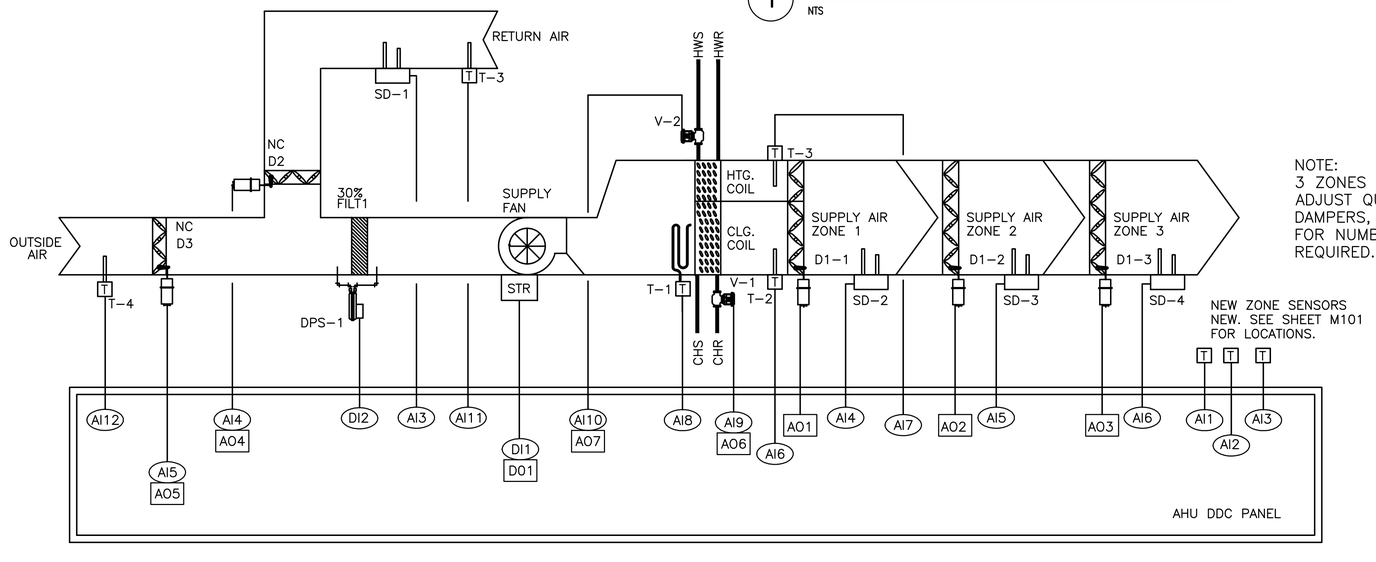
4.1 WHEN SMOKE IS DETECTED BY DUCT SMOKE DETECTOR, SD, THE SUPPLY FAN SHALL SHUT "OFF" AND AN ALARM SIGNAL SHALL BE TRANSMITTED TO THE FIRE ALARM SYSTEM. ALL SMOKE DAMPERS IN THE SUPPLY AND RETURN DUCTS SHALL CLOSE.

4.2 SUPPLY FAN SHALL RESTART AND SMOKE DAMPERS SHALL OPEN WHEN FIRE ALARM CIRCUIT IS RESET.

JOB: –
BUILDING: VA SAMPLE POINTS LIST

SYSTEM: VAV AIR HANDLER / SYSTEM COMPONENT:	POINT ID	ABBREVIATION	POINT LEGEND: PRIORITY/ADD-ALTERNATE NO.	SYSTEM OUTPUTS: BINARY: ELECTRIC DEVICE START/STOP	SYSTEM OUTPUTS: BINARY: OPEN/CLOSE	SYSTEM OUTPUTS: ANALOG: SPEED COMMAND	SYSTEM OUTPUTS: ANALOG: VALVE POSITION	SYSTEM INPUTS: BINARY: DAMPER POSITION STATUS	SYSTEM INPUTS: BINARY: ALARM	SYSTEM INPUTS: BINARY: PRESSURE	SYSTEM INPUTS: BINARY: HIGH HUMIDITY	SYSTEM INPUTS: BINARY: HIGH STATIC PRESSURE	SYSTEM INPUTS: BINARY: LOW TEMPERATURE	SYSTEM INPUTS: ANALOG: TEMPERATURE (TI)	SYSTEM INPUTS: ANALOG: PRESSURE	SYSTEM INPUTS: ANALOG: POSITION	SYSTEM INPUTS: ANALOG: FLOW	SYSTEM INPUTS: ANALOG: PERCENT	SYSTEM INPUTS: ANALOG: STATIC PRESSURE	SYSTEM INPUTS: ANALOG: CARBON MONOXIDE	SYSTEM INPUTS: ANALOG: HUMIDITY	SYSTEM INPUTS: ANALOG: VACUUM	SYSTEM INPUTS: ANALOG: Local Alarm Panel	SYSTEM INPUTS: ANALOG: Mode Alarm Panel	SYSTEM INPUTS: ANALOG: HIGH LIMIT	SYSTEM INPUTS: ANALOG: LOW LIMIT	SYSTEM INPUTS: ANALOG: ...	SYSTEM SOFTWARE/CONTROL: ALARM PROCESSING: SCHEDULE START/STOP	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: FUNCTION	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: DUTY CYCLE	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: TEMPERATURE ECONOMIZER	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: ENTHALPY ECONOMIZER	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: DEMAND LIMITING	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: TEMPERATURE RESET	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: STATIC PRESSURE RESET	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: ...	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: PRESSURE/VOLUME CONTROL	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: FAILURE MODE	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: SPACE TEMP CONTROL	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: FULL COMMUNICATION	SYSTEM SOFTWARE/CONTROL: APPLICATION/FUNCTION: TRENDING	REMARKS
SPACE TEMPERATURE ZONE 1	AI–1	ST1											●											●	●										●	●	
SPACE TEMPERATURE ZONE 2	AI–2	ST2											●											●	●										●	●	
SPACE TEMPERATURE ZONE 3	AI–3	ST3											●											●	●										●	●	
RETURN AIR DAMPER POSITION	AI–4	RADP												●																						●	
OUTSIDE AIR DAMPER POSITION	AI–5	OADP												●																						●	
COLD DECK TEMPERATURE	AI–6	CDT							●				●																					●		●	
HOT DECK TEMPERATURE	AI–7	HDT							●				●																					●		●	
FREEZE STAT	AI–8	FS											●															●	●							●	
COOLING VALVE POSITION (V–1)	AI–9	CLG–V1												●																						●	
HEAT VALVE POSITION (V–2)	AI–10	PHT–V1												●																						●	
RETURN AIR TEMPERATURE	AI–11	RAT							●				●																					●		●	
OUTSIDE AIR TEMPERATURE	AI–12	OAT							●				●																					●		●	
SUPPLY FAN STATUS	BI–1	OAT																																		●	
FILTER STATUS	BI–2	DPS–1																										●								●	
SMOKE DETECTOR (SD–1)	BI–3	RASD							●																											●	
SMOKE DETECTOR (SD–2)	BI–3	SASD							●																											●	
SMOKE DETECTOR (SD–3)	BI–4	SASD							●																											●	
SMOKE DETECTOR (SD–4)	BI–5	SASD							●																											●	
ZONE 1 DAMPER	AO–1	ZD–1					●																													●	
ZONE 2 DAMPER	AO–2	ZD–2					●																													●	
ZONE 3 DAMPER	AO–3	ZD–3					●																													●	
RETURN AIR DAMPER POSITION	AO–4	RAD					●																													●	
OUTSIDE AIR DAMPER POSITION	AO–5	OAD					●																													●	
COILING VALVE V–1	AO–6	CLG–V1				●																														●	
HEAT VALVE POSITION (V–2)	AO–7	PHT–V1				●																														●	
SUPPLY FAN START/STOP	BO–1	SF–SST		●																																●	

1 POINTS LIST FOR VAV AIR HANDLING UNIT WITH MINIMUM OUTSIDE AIR
NTS



NOTE:
3 ZONES SHOWN.
ADJUST QUANTITIES FOR DAMPERS, THERMOSTATS, ETC. FOR NUMBER OF ZONES AS REQUIRED.

2 MULTIZONE AIR HANDLING UNIT CONTROL DIAGRAM
NTS

STATE OF LOUISIANA
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1/18/13
PROFESSIONAL ENGINEER

Revisions

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ALBERT ARCHITECTURE
JBHM ARCHITECTS, P.A.
Allen&Hoshall
engineering since 1915

Approved

Title	Signature

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